This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF THE CLAIMS:

1. (Canceled)

2. (Previously Presented) The method as claimed in Claim 23, wherein said information collected relates to past, current and future input video frames comprising said sequence.

3. - 5. (Canceled)

6. (Previously Amended) The method as claimed in Claim 23, wherein said dynamic weighted picture complexity is calculated as a function of motion magnitude and picture quality index.

7. (Canceled)

8. (Previously Presented) The method as claimed in Claim 23, further including the step of: implementing rate control scheme to prevent underflow or overflow of a decode buffer requirement implemented according to a MPEG-2 standard.

9. (Original) The method as claimed in Claim 8, wherein the rate control scheme implements steps for adjusting the target bit allocation to prevent said decode buffer underflow or overflow.

10. (Previously Presented) The method as claimed in Claim 23, wherein said information collected from said first encoder device includes direct video frame signal information and intermediate results in various frame encoding stages under same encoding operation conditions as employed by said second encoder device.

11. (Original) The method as claimed in Claim 10, wherein said first and second encoder devices operate at the same constant bit rate (CBR).

12. (Canceled)

13. (Canceled)

14. – 16. (Canceled)

17. (Canceled)

18. (Canceled)

19. – 21. (Canceled)

22. (Canceled)

23. (Previously Presented) A method for real-time multi-pass encoding of a sequence of video frames comprising the steps of:

calculating a look ahead window for determining a size of an input buffer and correlating said buffer size to a processing delay;

simultaneously feeding, in real-time, a sequence of incoming video frames to said input buffer and a first encoder device;

continuously collecting information from said first encoder device, in real-time, on the statistics and rate-quality characteristics of said sequence of incoming video frames;

jointly determining, by a processing device, an optimal target bit allocation scheme for all frames in said look ahead window as a function of a calculated dynamic weighted picture complexity based on the information collected from said first encoder device and an available bit budget for all frames in the look ahead window;

encoding, by a second encoder device, each current incoming frame using the target bit allocation for said current incoming frame; and

continuously updating the said look ahead window by removing the current frame encoded by said second encoder device with a next frame from said sequence and repeating said look ahead window calculating through said second encoder device encoding steps,

wherein said input buffer implements said correlated processing time delay of sufficient time such that sufficient information may be collected from said first encoder device for deriving said jointly determined optimal target bit allocation by said processing device.

24. (Canceled)

25. (Canceled)